

R E M A R K S

Reconsideration of the present application, as amended, is respectfully requested.

The July 16, 2002 Office Action and the Examiner's comments have been carefully considered. In response, the drawings and claims are amended, and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

DRAWINGS

In the Office Action the drawings are objected to because the Examiner contends that in Fig. 14, there is no connection between the exposure time ratio calculating section 61 and the image joining section 6 as disclosed at page 31, lines 3-7 and Fig. 15 of the present application. In response, a proposed amended Fig. 14 is submitted with this Amendment. In addition, a Letter to the Official Draftsperson requesting approval of the proposed amendment is enclosed. In view of the amendment of Fig. 14, reconsideration and withdrawal of the objection to Fig. 14 are respectfully requested.

CLAIM OBJECTIONS

In the Office Action claims 2, 3, 10, 14, 20, 22 and 28 are objected to because of certain informalities. In response, claims 2, 3, 10, 14, 20, 22 and 28 are amended along the lines proposed by the Examiner in a sincere effort to obviate the objections. In view of the amendment of claims 2, 3, 10, 14, 20, 22 and 28, reconsideration and withdrawal of the objection thereto are respectfully requested.

REJECTION UNDER 35 USC 112

In the Office Action claims 2, 3 and 10 are rejected under the second paragraph of 35 USC 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. In response, claims 2, 3 and 10 are amended in a sincere effort to obviate the indefiniteness rejection. In view of the amendment of claims 2, 3 and 10, reconsideration and withdrawal of the indefiniteness rejection are respectfully requested.

PRIOR ART REJECTION

In the Office Action claims 2, 3, 10, 14, 20, 22 and 28 are rejected under 35 USC 102(b) as being anticipated by JP 8-32847 (Ueno et al).

According to the present claimed invention, a correction parameter is calculated based on previously photographed images, even if photographing conditions relating to a photographed image are not known. Then, based on the correction parameter, the photographed image is joined with another photographed image.

The present claimed invention is directed to an image processing apparatus and image processing method for joining image parts, and a recording medium for recording programs with the above structure. The "correction parameter" corresponds to an exposure time ratio R_{exp} . Naturally, the correction parameter is not confined to a time exposure time ratio. The correction parameter is any parameter at the time of photographing related to the brightness ratio between two or more images. More specifically, the correction parameter includes parameters such as diaphragm ratio, light transmittance ratio and the like.

A feature of the image processing apparatus according to the present claimed invention is that one image is corrected by a brightness correcting means and the other images, of a plurality of images, are displayed by an image display means, and said one image and the other images are converted so as to be placed in a displaying range of the image display means in accordance with the correction parameter when the images displayed by the image

display means are displayed with almost the same brightness, thereby joining the images.

According to Ueno et al, as is clear from the flow chart in FIG. 12 thereof, after designating an initial f. number, f number change interval and proper brightness, a plurality of images are photographed based on the designated conditions. In other words, in Ueno et al, photographing conditions such as an f number relating to the photographed images have to be known in advance.

Unlike the present claimed invention as defined by claim 2, Ueno et al, do not disclose or suggest an image processing apparatus for setting a correction parameter based on the previously photographed images and joining a plurality of images in accordance with the correction parameter.

That is, the present claimed invention as defined by claim 2 is patentable over Ueno et al because Ueno et al do not disclose, teach or suggest an image processing apparatus which includes:

image input means for inputting one composition as a plurality of images taken with a different exposure;

correction parameter setting means for setting correction parameters necessary to correct a brightness of at least one image of said plurality of images having a different exposure;

brightness correcting means for correcting the brightness of said one image in accordance with said set correction parameters;

image display means for displaying said one image corrected by said brightness correcting means and the other images of said plurality of images; and/or

image synthesizing means for converting said one image and the other images of said plurality of images to be placed in a displaying range of said image display means based on said set correction parameters so that the images displayed by the image display means are displayed with almost the same brightness, thereby joining said plurality of images.

Claim 14 is patentable for reasons, inter alia, set forth above in connection with claim 2.

Claims 3, 10, 20, 22 and 28 are patentable in view of their dependence on claim 2 or 14.

In view of the foregoing, claims 2, 3, 10, 14, 20, 22 and 28 are patentable over Ueno et al under 35 USC 102 as well as 35 USC 103.


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If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

Entry of the amendment, allowance of the claims, and the passing of the application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



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Encs: (1) Letter to the Official Draftsperson
(2) Copy of amended claims showing changes made thereto